



WESTERN SYDNEY
UNIVERSITY



Examining Students' Interaction With Mathematics Consultation Using Text Mining

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Mathematics Education Support Hub

Services

Analysis of All Consultations

Analysis of Consultations of First Year Students

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Analysis of Consultations of 3rd and 4th Year Students

Results

Mathematics Education Support Hub (MESH)

- Library Roving
- Workshops
- I Don't Get It – Online Help

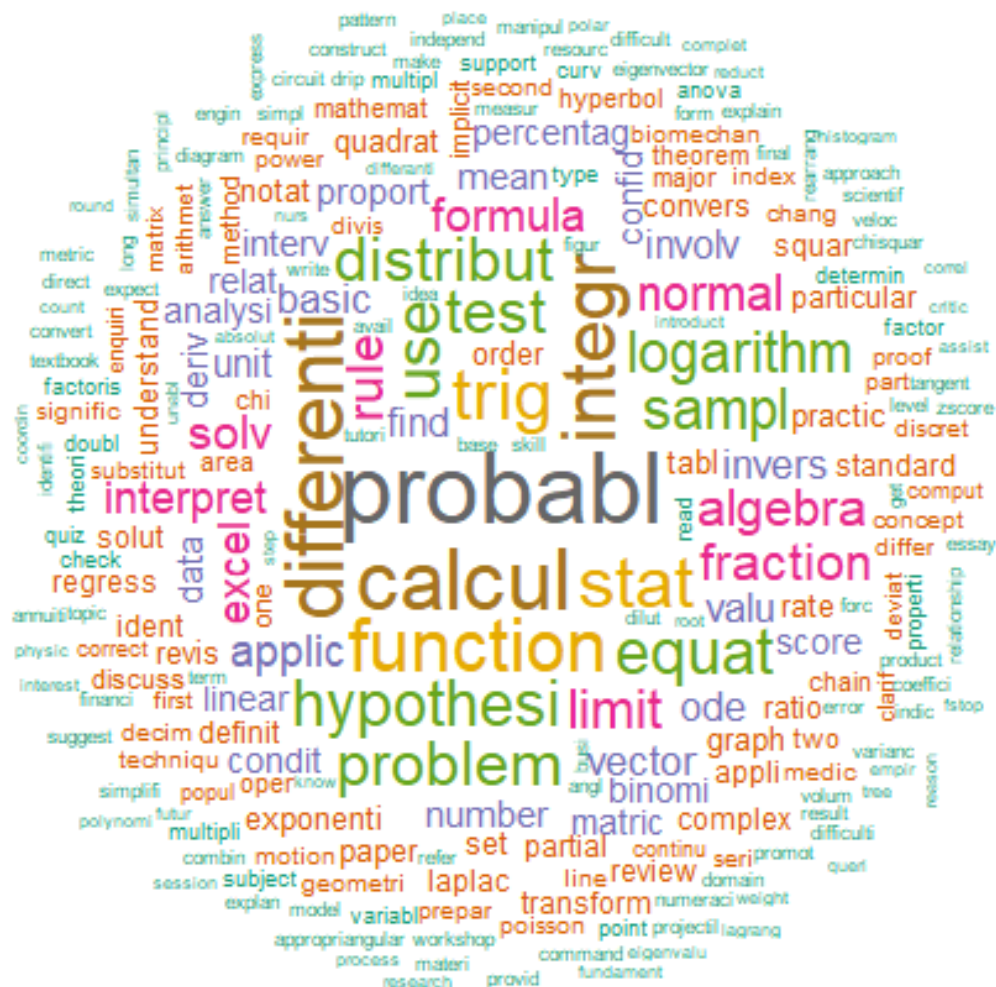
All Consultations – Library Roving

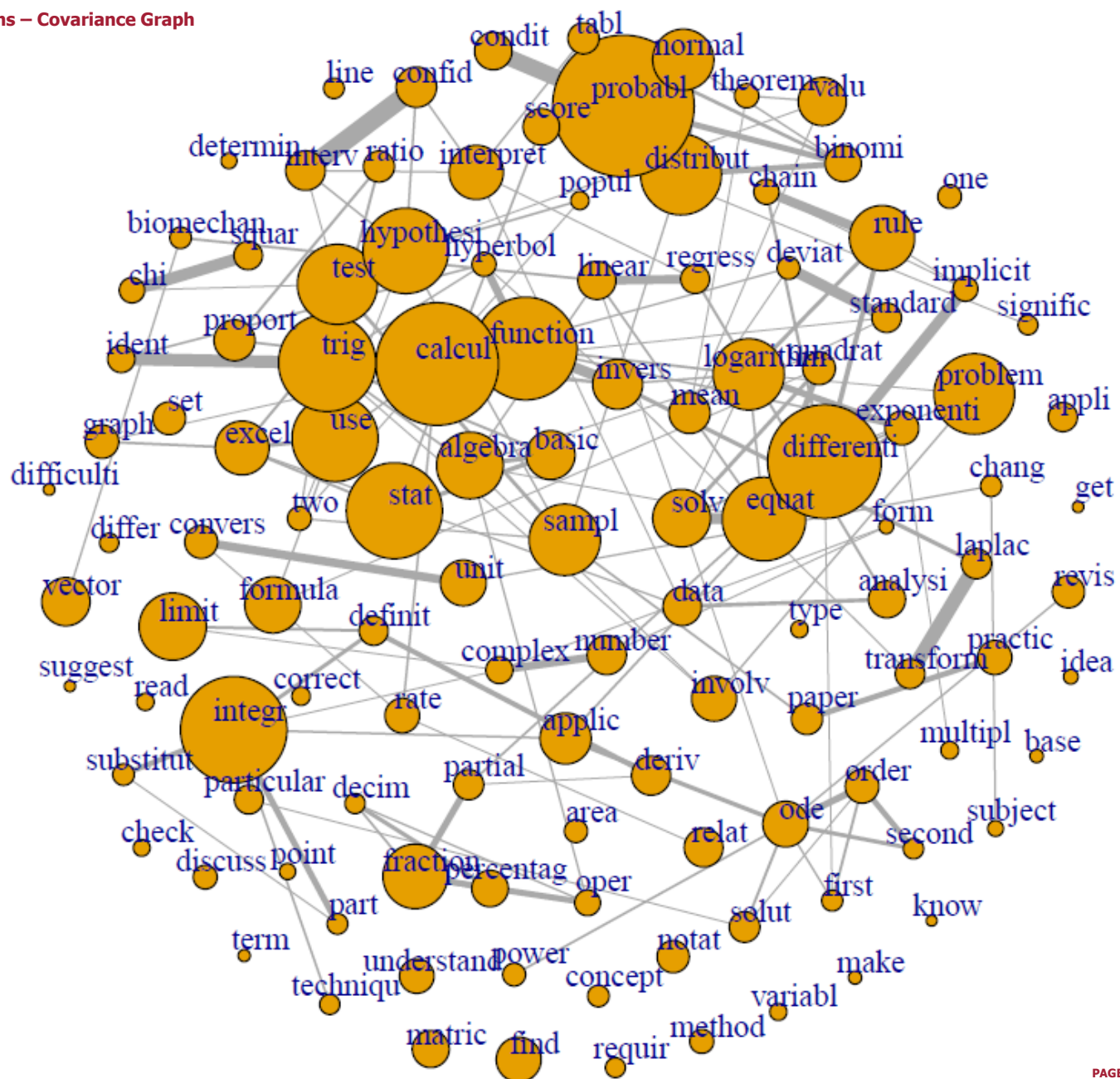
- 4630 consultations
- Data: 2013-2017
 - ✓ Year of study
 - ✓ Campus
 - ✓ Unit
 - ✓ Consultation time
 - ✓ Query

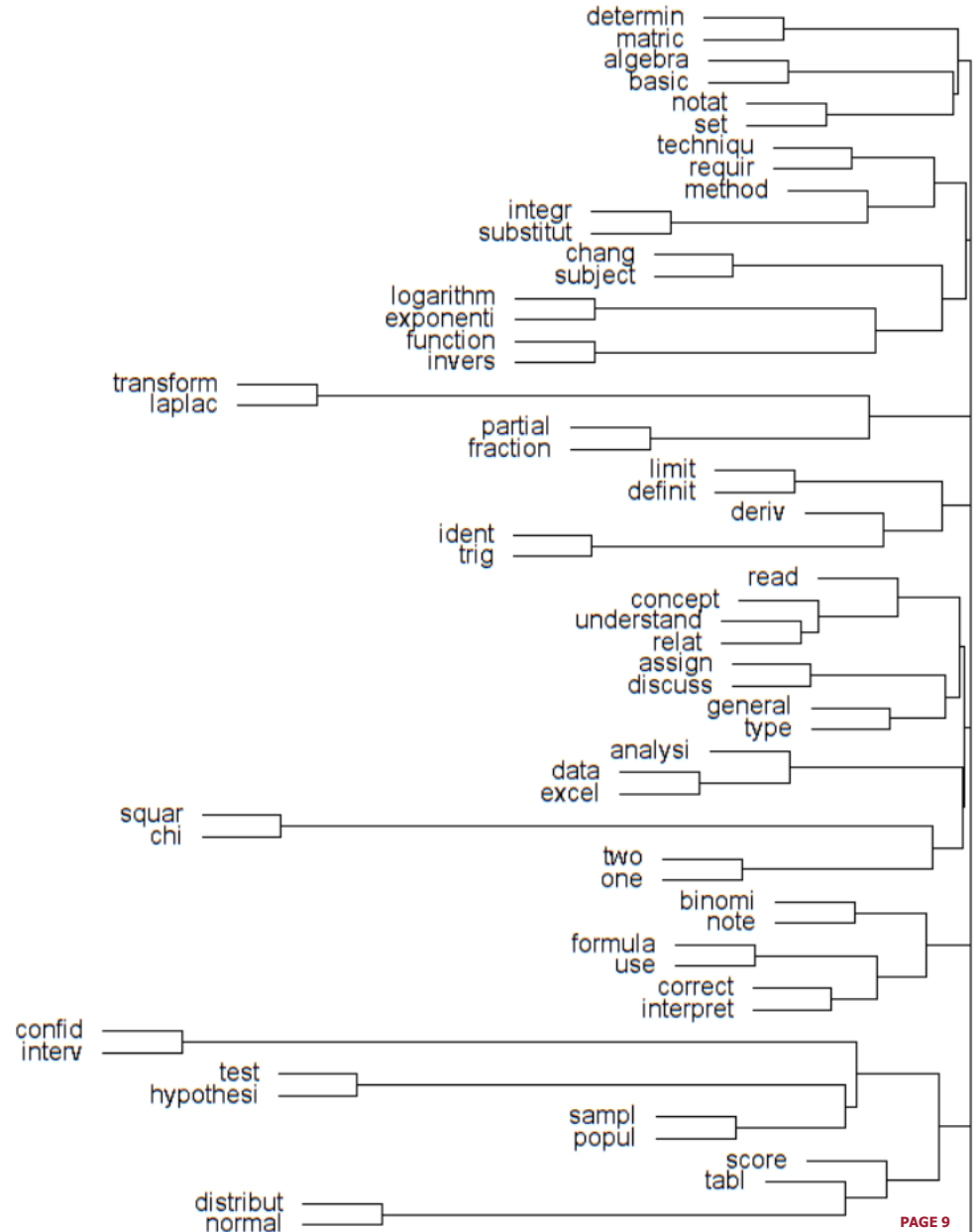
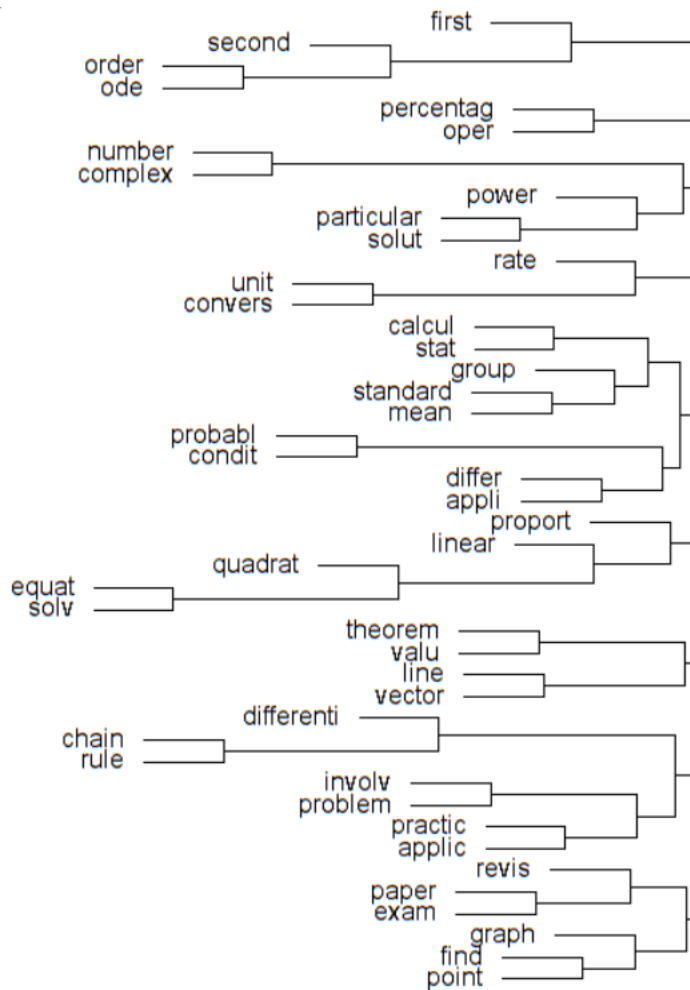


All Consultations – Library Roving

- Text Mining – R
 - Pre-processing
 - Stemming
 - Stop-words
- 4376 useful queries
- 2694 words

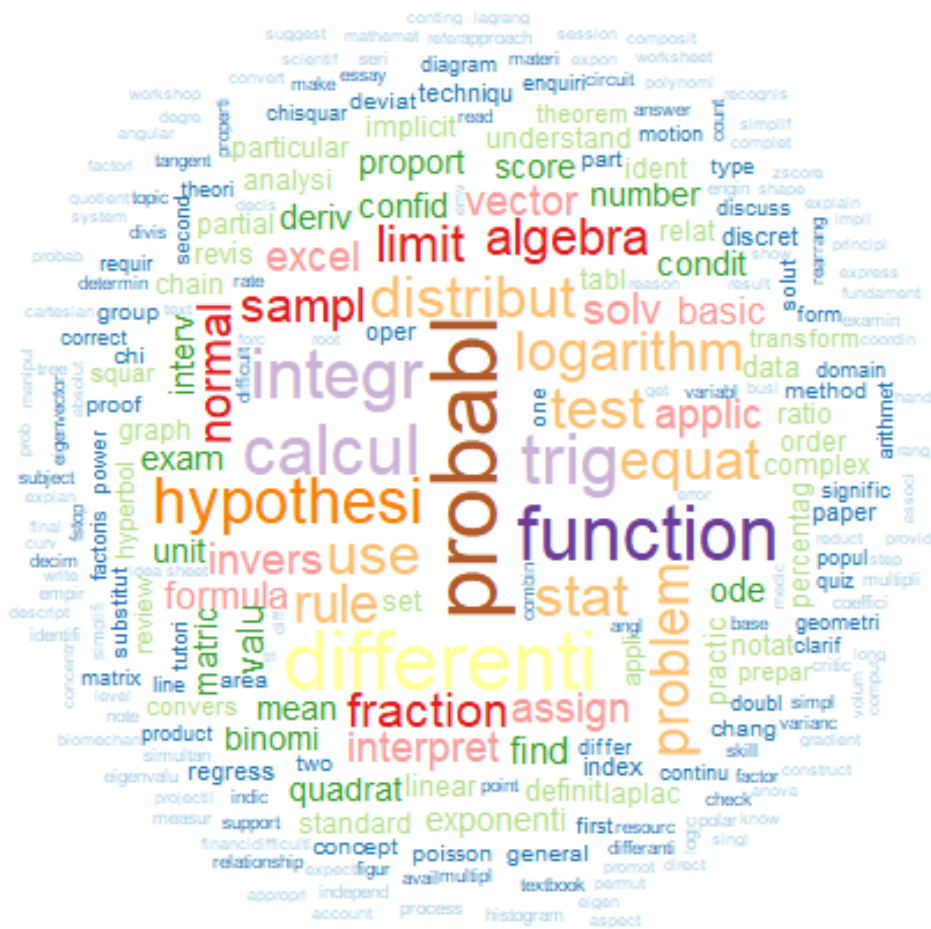


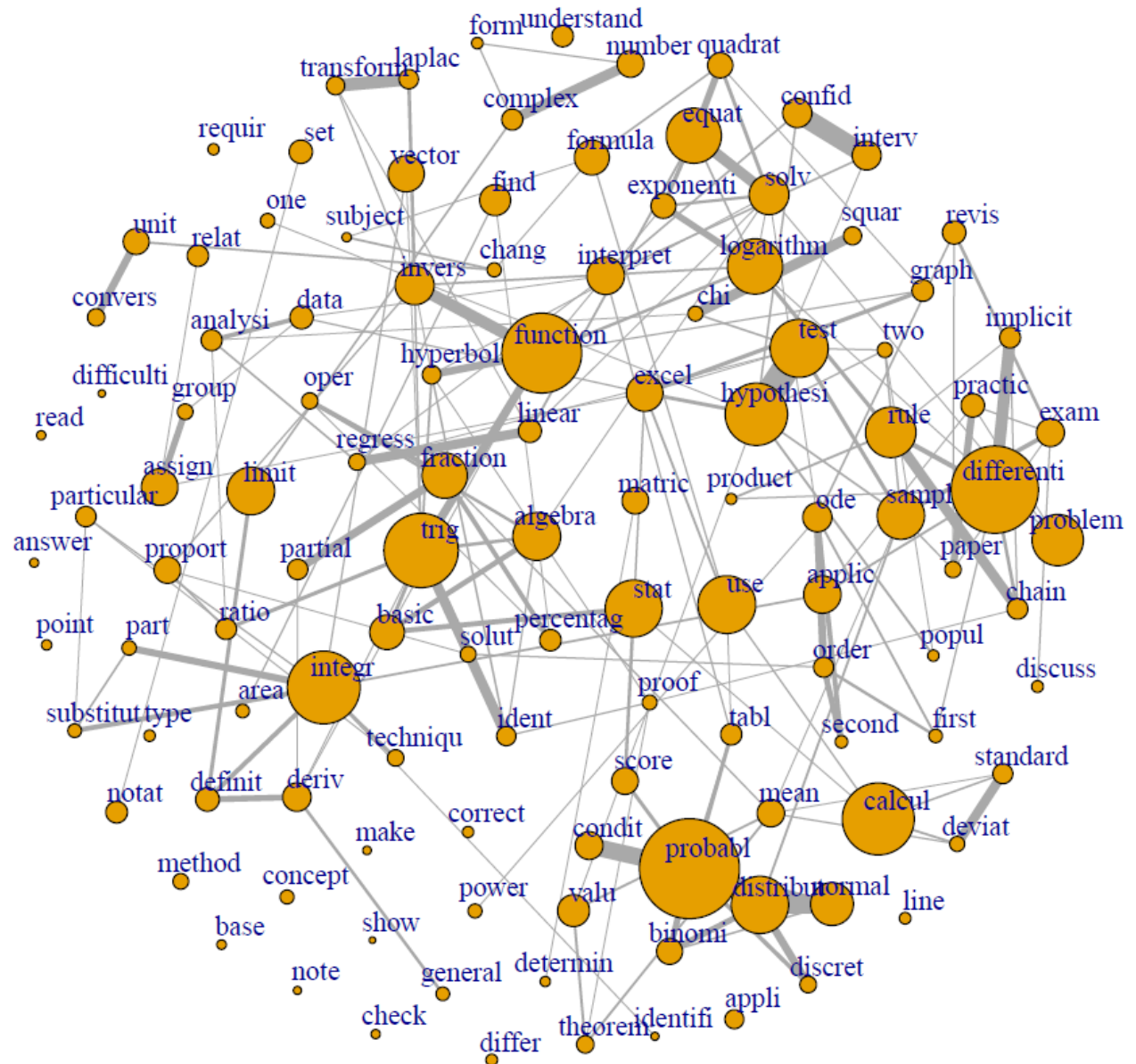


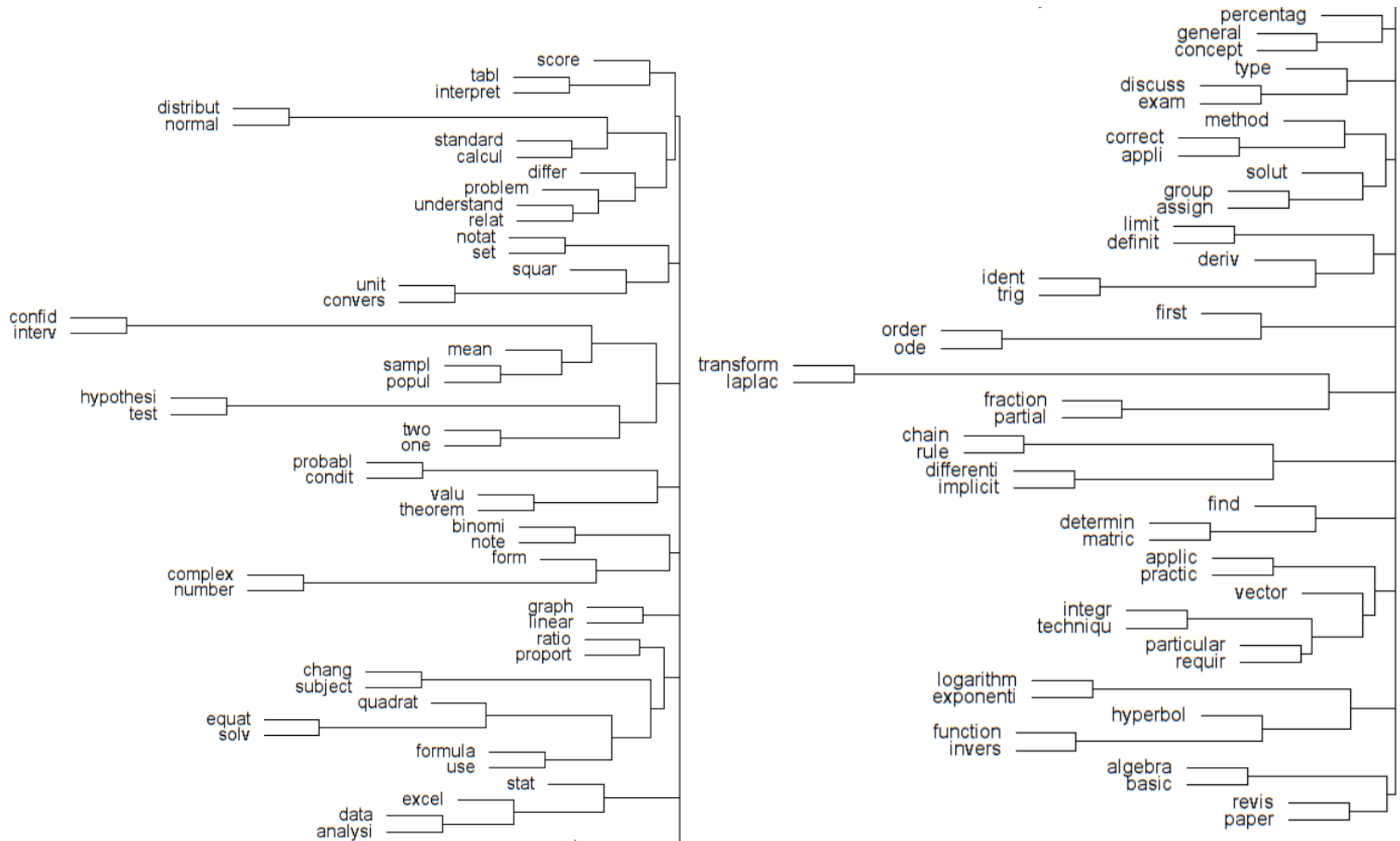


First Year Students

- 2893 consultations
- 1936 words

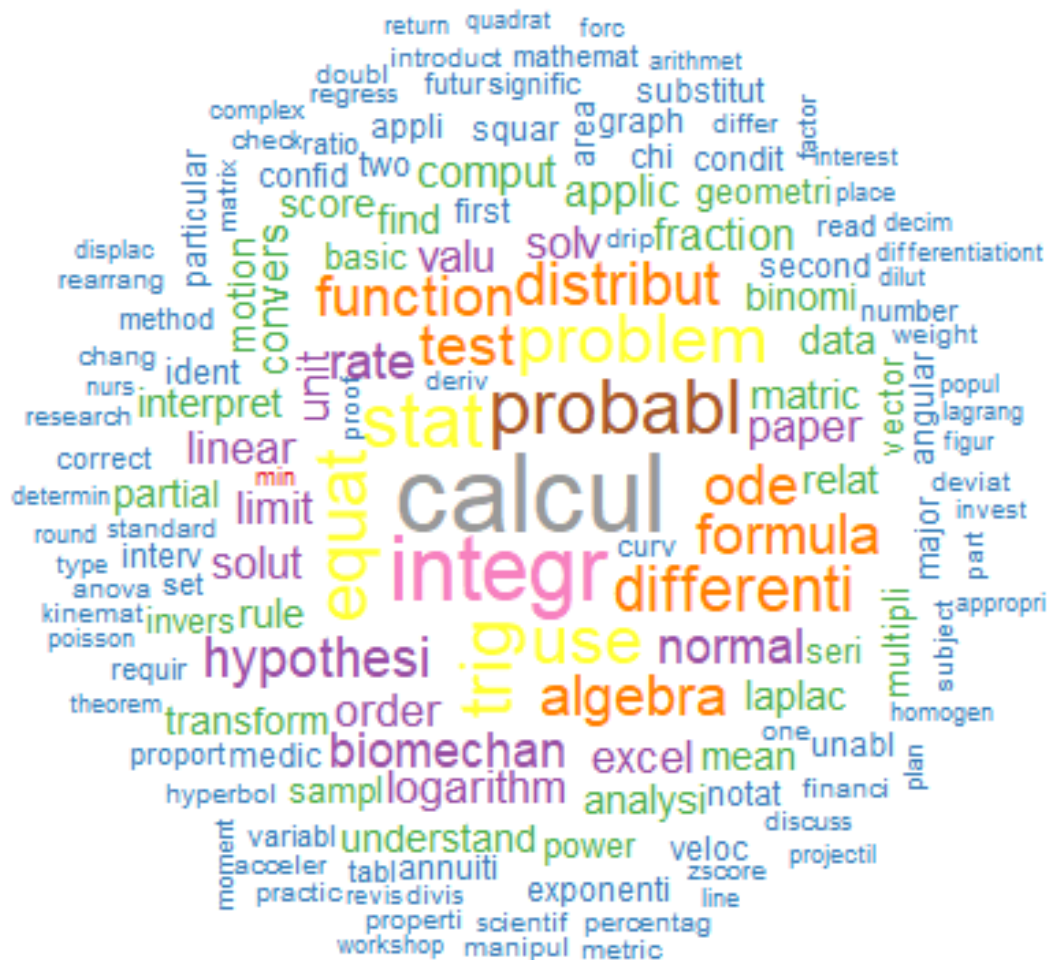




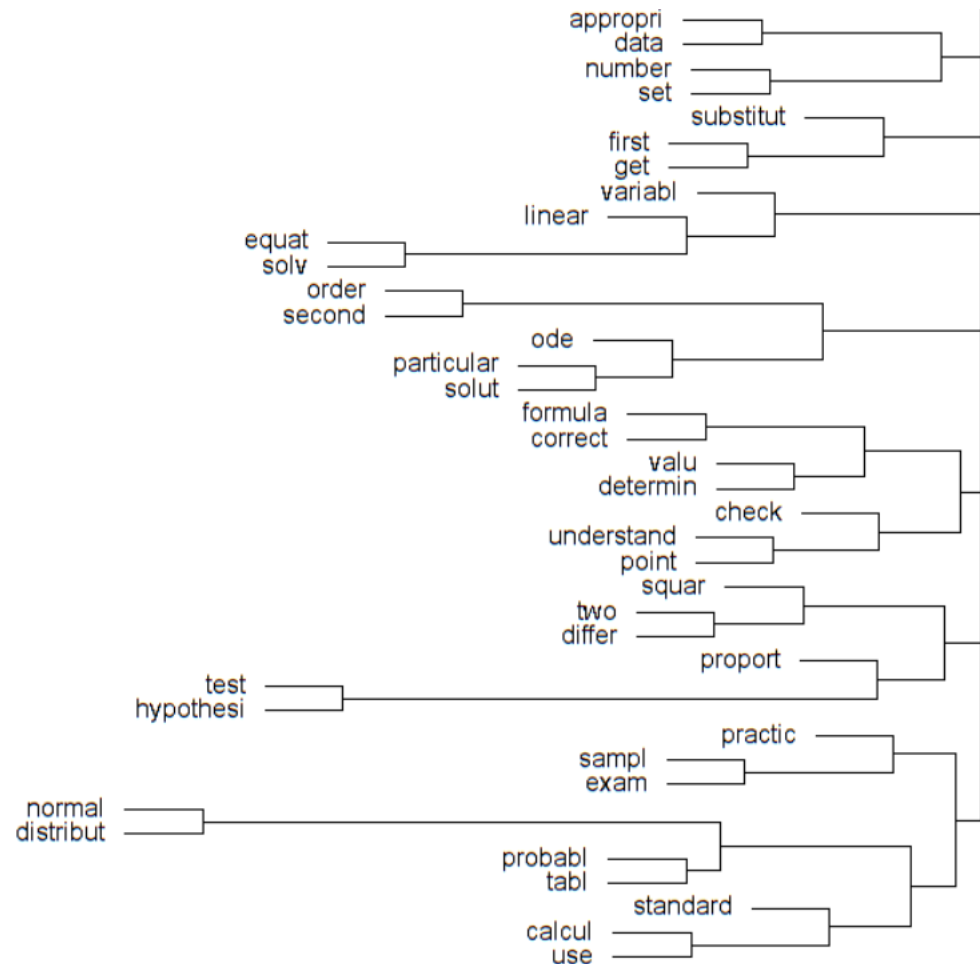
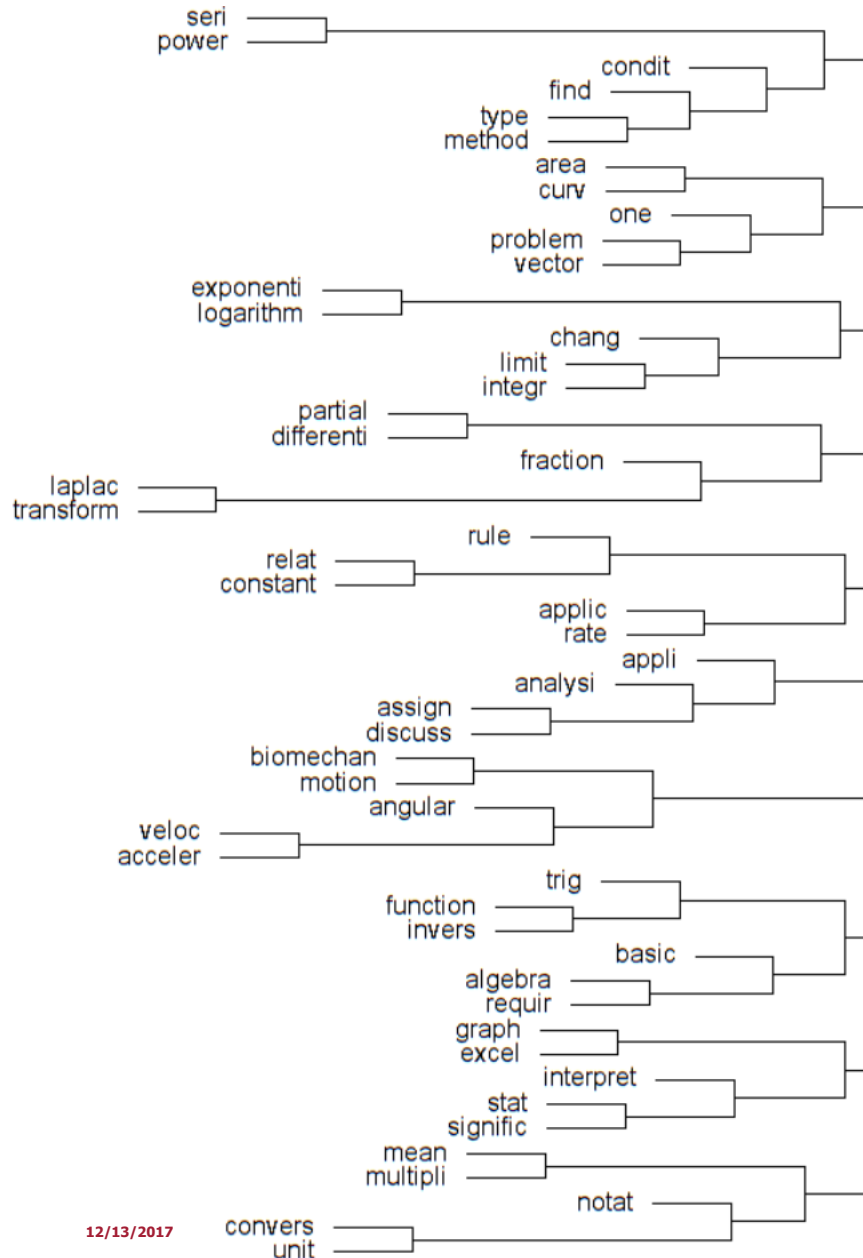


Second Year Students

- 895 consultations
- 1325 words

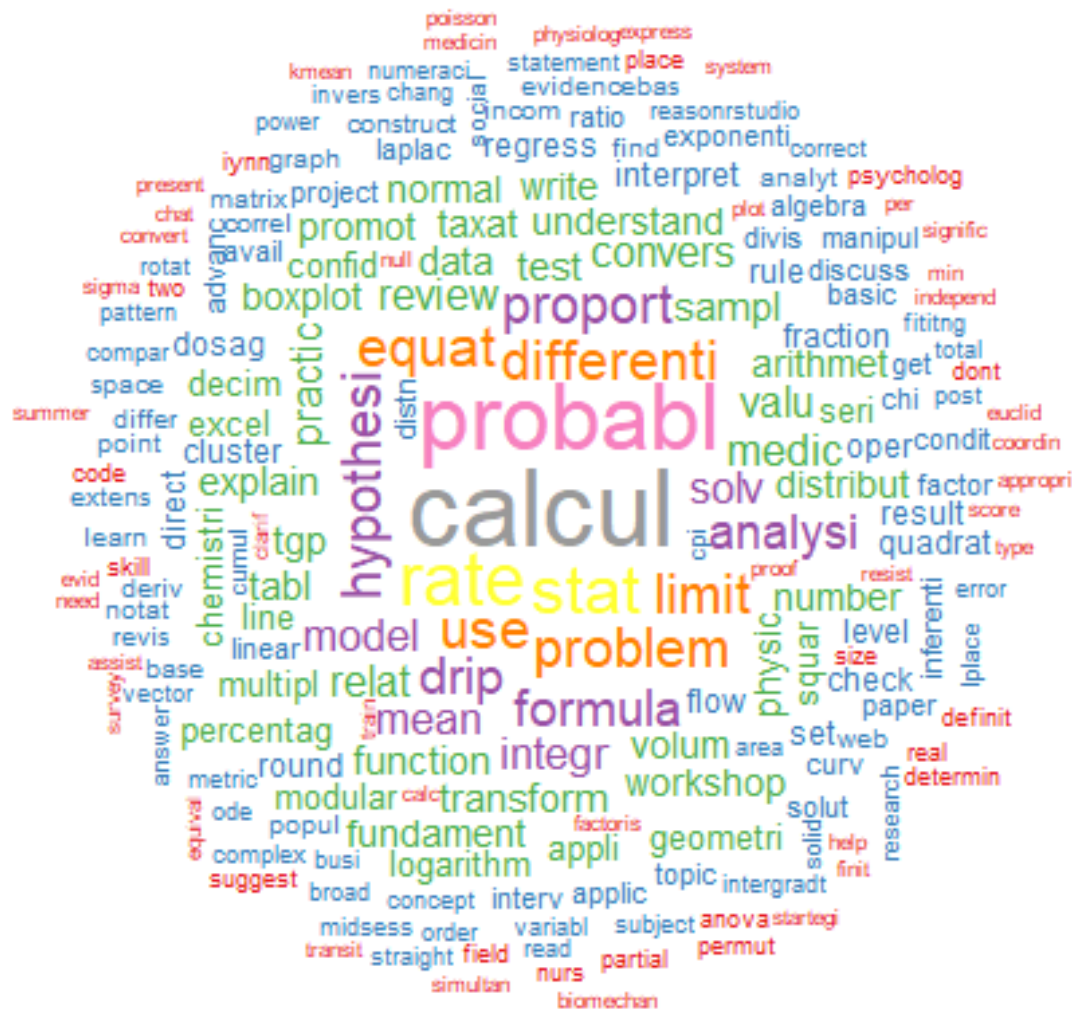


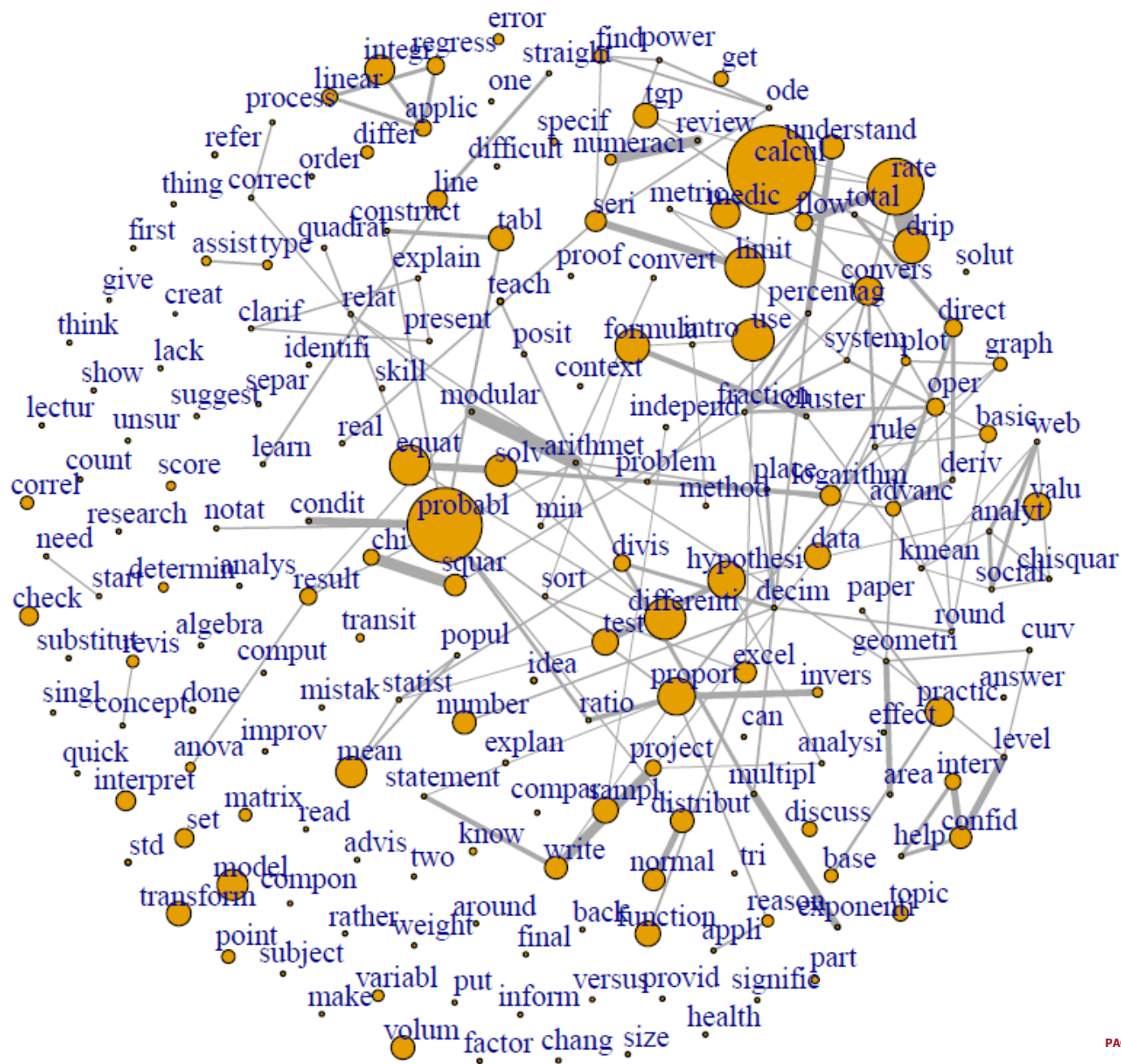


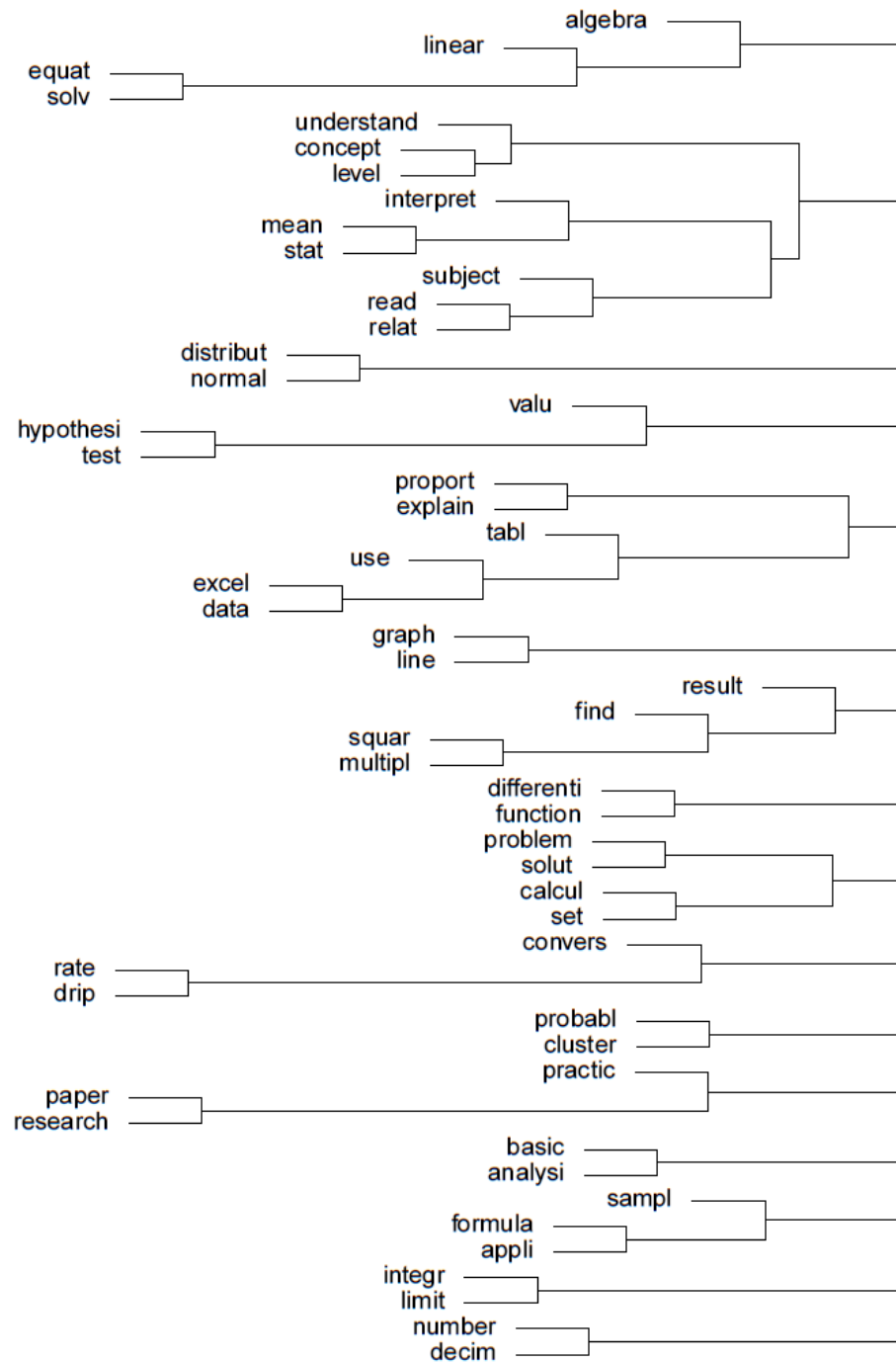


3rd and 4th Year Students

- 368 consultations
- 988 words







Results – Top topics

- Unit conversion
- Complex numbers
- Changing Subject of the formula
- Inverse functions
- Integral (by parts, substitution)
- Limit
- Implicit differentiation
- Solving quadratic equations
- ODE
- Laplace transform
- Logarithm - Exponential
- Decimal - percentage - fractions
- Conditional probability
- Hypothesis testing
- Normal distribution
- Statistical tables
- Chi squared
- Excel

[illegible]